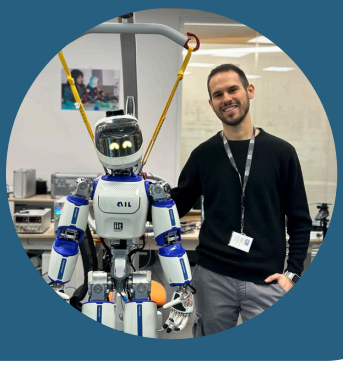

ALESSANDRO CROCI

ROBOTICS SOFTWARE ENGINEER

(+39) 3462135081 | alessandrocroci95@gmail.com | linkedin.com/in/alessandro-croci | github.com/xela-95

SKILLS

Python | C++ | JAX | Matlab | Simulink | Git | CI/CD | Scrum | C# | Azure IoT & ML | Control theory | Robotics | Machine Learning | Numerical optimization

LANGUAGE

- Mother Tongue: Italian
- English - B2
  TOEIC Certification 945/990

INTERESTS

In my free time, I love immersing myself in nature through trail running and cycling, often exploring the scenic trails of Northern Italy. When I'm not outdoors, I enjoy playing soccer and padel with friends.
I'm also a fan of sci-fi literature, particularly the works of Isaac Asimov, whose exploration of artificial intelligence inspires my work in robotics.

ABOUT ME

I'm an automation and control engineer graduated with honors from Politecnico di Milano. Currently, I work at the Artificial and Mechanical Intelligence Lab at IIT, under the leadership of Daniele Pucci, where I specialize in the simulation and control of humanoid robots.
Curious, proactive, and a strong team player, I am passionate about robotics and software engineering, aiming to develop products that improve people's lives. I am highly motivated to grow professionally and always open to new international experiences.

PROFESSIONAL EXPERIENCE

Robotics Software Engineer

Italian Institute of Technology (IIT) | Genoa, Italy | May 2023 – Present

- Contributed to a research project sponsored by **Sony Interactive Entertainment Inc.**, focusing on the simulation and control of humanoid robotics systems. Delivered comprehensive documentation, including presentations and technical reports, shared during periodic meetings.
- As part of the ∂P team (Parallel Differentiable Simulations), I contributed to the development of JaxSim, a next-generation simulator written in **Python** and **JAX** for **differentiable robotic simulations**.
- Developed C++ libraries to integrate the robotics stack with the **Gazebo-Sim** simulator, utilizing **YARP** middleware for real-time communication and simulation.

Machine Learning Engineer

Tenova S.p.A. (Techint Group) | April 2020 – May 2023 | Castellanza, Italy

- Applied Industry 4.0 technologies to optimize industrial processes through data-driven solutions.
- Developed AI and machine learning models using Python and open-source data-science libraries to improve process automation in manufacturing.
- Engineered IIoT modules for edge computing with C# and Azure, implementing cloud-based industrial systems.
- Designed and implemented DevOps CI/CD and MLOps pipelines, automating model deployment for continuous improvement of industrial applications.

EDUCATION

Automation and Control engineering (110L / 110)

Master of Science | Politecnico di Milano | 2017 - April 2020

Thesis title: "Robot-assisted positioning of bulky objects for ergonomic operations", Advisor prof. Paolo Rocco (http://hdl.handle.net/10589/164348).
I employed computer vision to estimate the pose of the human operator and programmed the control logic of a robotic manipulator in order to make exhausting manual operations more ergonomic. Sw: Matlab/Simulink, C++, C; Hw: Comau Smart Six, Microsoft Kinect

Automation Engineering (105/110)

Bachelor of Science | Politecnico di Milano | 2014 - 2017

Computer Science (100/100)

High School Diploma | ITIS "E. Alessandrini" Vittuone (Milan) | 2009 - 2014